UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,633	06/18/2001	Yuriko Tamura	SNY-P4406.01	2446

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MILLER PATENT SERVICES 2500 DOCKERY LANE RALEIGH, NC 27606	**EXAMINER** LEMMA, SAMSON B

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 June 2001</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-79* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-79* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u>.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims **1-79** have been examined.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out
> and distinctly claiming the subject matter which the applicant regards as his
> invention.

3.   **Claims 4, 5, 18 and 71** are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. Claims 4, 5, 18 and 71 recite the limitation "the encrypter

encrypts the modified MPEG transport stream using **5C decryption**". It should have been

written similar to the claims **32, 44 and 72** and has to be corrected and re-written as "the

encrypter encrypts ... stream using **5C encryption**" or "the decrypter decrypts ... using **5C**

decryption." This has to be corrected so that there would not be any ambiguity.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 1-3;6-8;16-17;19-21;29-31;33-35;42-43;45-47;54;56-58;65-67** are rejected under 35 U.S.C. 103(a) as being unpatentable over Slattery et al. (hereinafter referred as **Slattery**)(U.S. Patent No. 6,148,082) in view of Muratani et al. (hereinafter referred to as **Muratani**) (U.S. Patent No. 6,061,451)

6.   **As per claims 1,16,29,42,54,65-67** Slattery discloses an external storage device for a personal video recorder (PVR) or television Set-Top Box (STB), (Column 13, lines 13-14; column 12, lines 65- column 13, line 7) comprising:

- Means for receiving an encrypted and filtered MPEG transport stream, the filtered MPEG transport stream containing only components having content related to a single program; (Column 15, lines 32-38; column 14, lines 55-61;column 15, lines 64-column 16, line 2; column 17, lines 47-51)

- A decrypter that decrypts the encrypted and filtered MPEG transport stream to produce a filtered MPEG transport stream;(column 14, lines 55-61;column 8, lines 34-45;column 21, lines 48-55;figure 2, ref, Num "115"; figure 2, ref. Num "170")

- A demultiplexer that receives the filtered MPEG transport stream and extracts an MPEG table therefrom; (Column 20, lines 20-32;column 3, lines 53-column 4, line 20)

- A formatter that reinserts an MPEG table back into the filtered MPEG transport stream to produce a modified MPEG transport stream, the reinserted table containing only information relevant to the single program; and a disc drive that stores the modified MPEG transport stream. (column 4, line 61- column 5, line 6; column 32, lines 38-40; column 14, lines 65- column 15, lines 2; column 12, lines 65- column 13, line 7)

Slattery does not explicitly disclose that a demultiplexer is the one that receives the filtered MPEG transport stream.

However, in the field of endeavor **Muratani** , discloses that scrambled digital video data

supplied from the network is filtered, descrambled and demultplexed. (figure 15, ref. Num

"113" and ref. Num "130")

It would have been obvious to one having ordinary skill in the art, at the time the invention was

made, to combine the features of demultiplexer that receives the filtered digital video data as

per teachings of **Muratani** in to the method as taught by **Slattery**, in order to accommodate

the multimedia data which are communicated by multiplexing video data and audio according

to the system specification of the MPEG-2.

7.   **As per claims 2 and 30**, the combination of **Slattery** and **Muratani** discloses the

method as applied to claims 1 and 29 above. Furthermore Slattery discloses the method

further comprising an encrypter that encrypts the modified transport stream. (Column 15,

lines 32-38; column 14, lines 55-61;column 15, lines 64-column 16, line 2; column 17, lines

47-51; figure 2, ref. Num "170" and figure 2, ref. Num "115)

8.   **As per claims 3, 17, 31, and 43** , the combination of **Slattery** and **Muratani** discloses

the method as applied to claims 1,16, 30 and 42 above. Furthermore Slattery discloses the

method wherein the encrypter encrypts the modified transport stream prior to storage in the

disc drive so that the disc drive stores an encrypted version of the modified transport stream.

(column 4, line 61- column 5, line 6; column 32, lines 38-40; column 14, lines 65- column 15,

lines 2; column 12, lines 65- column 13, line 7)

9.   **As per claims 6. 19, 33, 45 and 56** the combination of **Slattery** and **Muratani**

discloses the method as applied to claims 1,17, 29, 42 and 54 above. Furthermore Slattery

discloses the method wherein the MPEG table comprises at least one of a program association

table (PAT) and a program map table (PMT). (Column 20, lines 20-32;column 3, lines 53-

column 4, line 20)

10.   **As per claims 7,20,34,46 and 57** the combination of slattery and Muratani discloses

the method as applied to claims 1,17, 29, 42, and 54 above. Furthermore Slattery discloses the

method wherein the demultiplexer extracts MPEG tables comprising a program association

table (PAT) and a program map table (PMT); (Column 20, lines 20-32;column 3, lines 53-

column 4, line 20;) and

wherein the formatter reinserts the MPEG PAT and PMT tables back into the filtered MPEG

transport stream to produce a modified MPEG transport stream, the reinserted tables

containing only information relevant to the single program. (column 4, line 61- column 5, line

6; column 32, lines 38-40; column 14, lines 65- column 15, lines 2; column 12, lines 65-

column 13, line 7).

11.   **As per claims 8,21,35,47 and 58** the combination of slattery and Muratani discloses

the method as applied to claims 1,17, 29, 42 and 54 above. Furthermore Slattery discloses the

method wherein the demultiplexer further extracts an entitlement control message (ECM) from

the filtered transport stream. (Column 20, lines 20-32;column 3, lines 53-column 4, line 20)

12.   **Claims 4-5;9-15;18,22-28;32;36-41;44;48-53;55,59-64;68-79 are** rejected under 35

U.S.C. 103(a) as being unpatentable over Slattery et al. (hereinafter referred as **Slattery**)(U.S.

Patent No. 6,148,082) in view of **Muratani et al.** (hereinafter referred to as **Muratani**) (U.S.

Patent No. 6,061,451) further in view of 5C Digital Transmission Content Protection White

Paper (hereinafter referred to as **5C Digital Transmission**) (reference U)

13.   **As per claims 9-15; 22-28;36-41;48-53;59-64;68-69;73;77-79** Slattery discloses an

external storage device for a personal video recorder (PVR) or television Set-Top Box (STB),

(Column 13, lines 13-14; column 12, lines 65- column 13, line 7) comprising:

- Means for receiving an encrypted and filtered MPEG transport stream, the filtered MPEG transport stream containing only components having content related to a single program, (Column 15, lines 32-38; column 14, lines 55-61;column 15, lines 64-column 16, line 2; column 17, lines 47-51)

- Wherein the encrypted and filtered MPEG transport stream is received as isochronous data over an IEEE 1394 bus; (Figure 2, ref. Num "140", ref. Num "130")

- A decrypter that decrypts the encrypted and filtered MPEG transport stream using 5C decryption to produce a filtered MPEG transport stream (column 14, lines 55-61;column 8, lines 34-45;column .21, lines 48-55;figure 2, ref, Num "115"; figure 2, ref. Num "170") ;

- A demultiplexer that receives the filtered MPEG transport stream and extracts MPEG tables comprising a program association table (PAT) and a program map table (PMT) therefrom, and wherein the demultiplexer further extracts an entitlement control message (ECM) from the filtered transport stream;(Column 20, lines 20-32;column 3, lines 53-column 4, line 20)

- Means for sending the MPEG tables extracted by the demultiplexer is sent to the PVR or STB over the IEEE 1394 bus as asynchronous data; (Figure 2, ref. Num "140", ref. Num "130")

- A formatter that reinserts the MPEG PAT and PMT tables back into the filtered MPEG transport stream to produce a modified MPEG transport stream, the reinserted tables containing only information relevant to the single program, (column 4, line 61- column 5, line 6; column 32, lines 38-40; column 14, lines 65- column 15, lines 2; column 12, lines 65-column 13, line 7)

- Wherein the formatter receives the MPEG table to be reinserted as asynchronous data over the IEEE 1394 bus; (Figure 2, ref. Num "140", ref. Num "130")

- An encrypter that encrypts the modified transport stream using 5C encryption;(figure 2, ref. Num "170" and figure 2, ref. Num "115")

- A disc drive that stores the encrypted modified MPEG transport stream; (column 4, line 61- column 5, line 6; column 32, lines 38-40; column 14, lines 65- column 15, lines 2; column 12, lines 65- column 13, line 7)

Slattery does not explicitly disclose that a demultiplexer is the one that receives the filtered MPEG transport stream.

However, in the field of endeavor **Muratani** , discloses that scrambled digital video data supplied from the network is filtered, descrambled and demultplexed. (figure 15, ref. Num "113" and ref. Num "130")

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to combine the features of filter digital video data demultiplexed as per teachings of Muratani in to the method as taught by **Slattery**, in order to accommodate the multimedia data which are communicated by multiplexing video data and audio according to the system specification of the MPEG-2.

The combinations of **Slattery and Muratani** does not explicitly disclose that decrypter/encryptor used a 5C decryption and 5C encryption method and the bus used is "the IEEE 1394 bus".

However, in the field of endeavor **5C digital Transmission**, discloses the members of the copy protection Technical working group (CPTWG), Hitachi, Intel, Matsushita (MEI), Sony and Toshiba have jointly produced the Five Company (5C) Digital Transmission content Protection (DTCP) specification, providing manufactures with simple and inexpensive implementation. The DTCP specification defines a cryptographic protocol for protecting audio/video entertainment content from illegal copying, intercepting and tampering as it traverses a high performance

digital buses such as the IEEE 1394 standard. DTCP specification requires Hitachi's M6 as the

base line cipher. The M6 cipher used for encypt/decrypt content traversing the bus.(Page 1,

reference "Introduction", 1st and 2nd paragraph, page 2, under the title "Content Encryption").

It would have been obvious to one having ordinary skill in the art, at the time the invention was

made, to combine the 5c encryption/decryption algorithm recommended for the high

performance digital buses such as IEEE 1394 buses as per teachings of 5C Digital Trasmission

in to the method as taught by **Slattery and Muratani**, in order to provide a simple and

inexpensive implementation with a high degree of protection.

14.   **As per claims 4, 5, 18, 32, 44,55, 71 and 72,** the combination of **Slattery** and

Muratani discloses an encrypter that encrypts the modified transport stream (figure 2, ref.

Num "170" and figure 2, ref. Num "115"; column 4, line 61- column 5, line 6; column 32, lines

38-40; column 14, lines 65- column 15, lines 2; column 12, lines 65- column 13, line 7)

The combination **of Slattery** and **Muratan** does not explicitly disclose the encrypter encrypts

the modified MPEG transport stream using 5C encryption.

However, in the field of endeavor **5C digital Transmission**, discloses the members of the copy

protection Technical working group (CPTWG), Hitachi, Intel, Matsushita (MEI), Sony and

Toshiba have jointly produced the Five Company (5C) Digital Transmission content Protection

(DTCP) specification, providing manufactures with simple and inexpensive implementation. The

DTCP specification defines a cryptographic protocol for protecting audio/video entertainment

content from illegal copying, intercepting and tampering as it traverses a high performance

digital buses such as the IEEE 1394 standard. DTCP specification requires Hitachi's M6 as the

base line cipher. The M6 cipher used for encrypt/decrypt content traversing the bus.(Page 1,

reference "Introduction", 1st and 2nd paragraph, page 2, under the title "Content Encryption").

It would have been obvious to one having ordinary skill in the art, at the time the invention was

made, to combine the 5c encryption/decryption algorithm recommended for the high

performance digital buses such as IEEE 1394 buses as per teachings of 5C Digital

Transmission in to the method as taught by **Slattery and Muratani**, in order to provide a

simple and inexpensive implementation with a high degree of protection.

15. **As per claim 70,** the combination of Slattery, Muratani and 5C Digital Transmission

discloses the method as applied to claims 68 above. Furthermore **Slattery** discloses the

method wherein the encrypter encrypts the modified transport stream prior to storage in the

disc drive so that the disc drive stores an encrypted version of the modified transport stream.

(column 4, line 61- column 5, line 6; column 32, lines 38-40; column 14, lines 65- column 15,

lines 2; column 12, lines 65- column 13, line 7)

16. **As per claim 74**, the combination of Slattery, Muratani and 5C Digital Transmission

discloses the method as applied to claims 73 above. Furthermore Slattery discloses the method

wherein the MPEG table comprises at least one of a program association table (PAT) and a

program map table (PMT). (Column 20, lines 20-32;column 3, lines 53-column 4, line 20)

17.   **As per claim 75**, the combination of Slattery, Muratani and 5C Digital Transmission

discloses the method as applied to claims 73 above. Furthermore Slattery discloses the method

wherein wherein the demultiplexer extracts MPEG tables comprising a program association

table (PAT) and a program map table (PMT); (Column 20, lines 20-32;column 3, lines 53-

column 4, line 20;) and

   wherein the formatter reinserts the MPEG PAT and PMT tables back into the filtered MPEG

transport stream to produce a modified MPEG transport stream, the reinserted tables

containing only information relevant to the single program. (column 4, line 61- column 5, line

6; column 32, lines 38-40; column 14, lines 65- column 15, lines 2; column 12, lines 65-

column 13, line 7).

18.　　**As per claim 76**, the combination of Slattery, Muratani and 5C Digital Transmission discloses the method as applied to claims 73 above. Furthermore Slattery the method wherein the demultiplexer further extracts an entitlement control message (ECM) from the filtered transport stream. (Column 20, lines 20-32;column 3, lines 53-column 4, line 20)

Conclusion

19.　　The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.(See PTO-Form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).
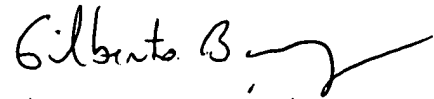
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